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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			RODRIGUEZ, RUTH C	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/688,031	CLARNER, MARK A.
	Examiner	Art Unit
	Ruth C. Rodriguez	3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 23 April 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-5,8-16,21-27,30,31,35-38,40-42,46-50,52,56 and 57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-5,8-16,21-27,30,31,35-38,40-42,46-50,52,56 and 57 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 15 October 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 5/25/07.
 - 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 - 5) Notice of Informal Patent Application (PTO-152)
 - 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 8-16, 21-23, 35, 40-42, 46, 52, 56 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas (US 5,116,563).

A touch fastener component (20) has a sheet-form base (24) and an array of fastener elements (22). Each fastener element comprises a molded stem (28) and a head (30). The stem extends outwardly from and integrally with the sheet-form base (Figs. 1, 7A, 7B, 9A and 9B). The head extends forward from a distal end of the stem to a tip (Figs. 1, 7A, 7B, 9A and 9B). The head has a lower surface forming a crook that retaining loops (C. 1, L.12-26). Thomas fails to disclose any dimensions for different components of the fastener component. Therefore Thomas also fails to disclose that the head has an overall height, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the head, that is greater than 55 percent of an overall height of the fastener element, measured perpendicular to the sheet-form base and that a ratio of an overall height of the crook, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost

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extent of the crook, to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip, is greater than 0.6. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to increase the overall height of the head that thereby increases an overall height of the crook so that the head has an overall height, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the head, that is greater than 55 percent of an overall height of the fastener element, measured perpendicular to the sheet-form base and that a ratio of an overall height of the crook, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the crook, to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip, is greater than 0.6 since a change in the size of a prior art device is a design consideration within the skill of the art. In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955). Fastener elements are typically used in different types of applications and the strength of the engagement between the hook fasteners and the loop fasteners varies depending on the applications. One of ordinary skill in the art at the time the invention was made will recognize that the dimensions of the different elements are commonly modified to increase or decrease the strength of engagement between the hook fasteners and the loop fasteners. Therefore, the dimension of the overall head height and the overall height of the crook can be increased to reflect the characteristics shown in Figure 1 where the head has an overall height, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the head, that is greater than 55 percent of an

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overall height of the fastener element, measured perpendicular to the sheet-form base and that a ratio of an overall height of the crook, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the crook, to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip, is greater than 0.6 in order to provide a hook fastener that has greater strength of engagement since more loops will be retained by the larger crook and the accidental disengagement of the hooks from the loops will be reduced because the reduction of the entrance height (thereby allowing a smaller height prone to the disengagement) serves to secure the engaged loops. Especially since Thomas disclose that the shape and size of the fastener elements can be changing the speed of the different component of the apparatus for making the fastener (Examples I-VI shown in C. 23-25 and Figs. 6a-9b).

From the changes disclosed above for the overall head height that is according to the illustrated figures (7A,9A), it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention that the overall head height can be less than 60 percent of the overall height of the fastener element as shown in Figs. 7A and 9A since a change in the size of a prior art device is a design consideration within the skill of the art.

The tip extends toward the base (Figs. 1, 7A, 7B, 9A and 9B).

The lower surface of the head is arched (Figs. 1, 7A, 7B, 9A and 9B).

The head and the stem form a unitary molded structure (Figs. 1, 7A, 7B, 9A and 9B).

The head has a surface of resin (Figs. 1, 7A, 7B, 9A and 9B).

The stem has opposing surfaces (Figs. 1, 7A, 7B, 9A and 9B).

The stem and the head have side surfaces lying in parallel planes (Figs. 1, 7A, 7B, 9A and 9B).

The crook overhangs a surface of the stem (Figs. 1, 7A, 7B, 9A and 9B).

The overhung stem surface extends at an inclination angle of between about 20 to 30 degrees with respect to a normal to the base (Figs. 1, 7A, 7B, 9A and 9B).

Thomas fails to disclose that the touch fastener component further comprises a backing material laminated to a side of the base opposite the fastener elements. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the touch fastener component further comprises a backing material laminated to a side of the base opposite the fastener elements since the Examiner takes Official notice that having a fastener with two crook being provided with an upper well is well known in the touch fastener art.

Thomas fails to disclose that the fastener elements are arranged in a density of at least 350 fastener elements per square inch of the base. However, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have the fastener elements are arranged in a density of at least 350 fastener elements per square inch of the base since the Examiner takes Official notice that having a fastener with two crook being provided with an upper well is well known in the touch fastener art.

Thomas fails to disclose that the fastener elements together cover at least 20 percent of an overall surface area of the base from which the fastener elements extend. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the fastener elements together cover at least 20 percent of an overall surface area of the base from which the fastener elements extend since the Examiner takes Official notice that having a fastener with two crook being provided with an upper well is well known in the touch fastener art.

Regarding claim 35 having similar limitations to claim 1, Thomas fails to disclose that the fastener element has a bulk aspect defined as a ratio of the product of an overall length of the fastener element, measured parallel to the sheet-form base in the engagement direction above an elevation of the tip, and fastener element thickness, measured parallel to the sheet-form base and the engagement direction at the elevation of the tip, to an overall height of the fastener element, measured perpendicular to the sheet-form base, of more than 0.020 inch (0.51 mm). However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have an a bulk aspect defined as a ratio of the product of an overall length of the fastener element, measured parallel to the sheet-form base in the engagement direction above an elevation of the tip, and fastener element thickness, measured parallel to the sheet-form base and the engagement direction at the elevation of the tip, to an overall height of the fastener element, measured perpendicular to the sheet-form base, of more than 0.020 inch (0.51 mm) since it has been held that the optimization of proportions in a prior art device is a design consideration within the skill of the art. In re Reese, 290

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F.2d 839, 129 USPQ 402 (CCPA 1961). Especially since the prior art device has the structural limitations required with respect to the height of the crook with respect to the overall height of the fastener.

Regarding claim 46, the rejection of claim 1 meets the limitations of claim 46.

The crook defines an under crook angle of at least 180 degrees (Figs. 1, 7A, 7B, 9A and 9B).

3. Claims 1-5, 8-16, 21-27, 30, 31, 34-38, 40-42, 46-50, 52, 56 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallant et al. (US 2003/0012921 A1) in view of Thomas.

Gallant discloses a touch fastener component having a sheet-form base (under 260) and an array of fastener elements (260). Each fastener element comprises a molded stem (262) and a head (264). The stem extends outwardly from and integrally with the sheet-form base (Paragraphs 0076-0080). The head extends forward from a distal end of the stem to a tip (Figs. 11-12B). The head has a lower surface forming a crook that retaining loops (Figs. 11-12B). Gallant fails to disclose that the head has an overall height, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the head, that is greater than 55 percent of an overall height of the fastener element, measured perpendicular to the sheet-form base and that a ratio of an overall height of the crook, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the crook, to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip, is greater than 0.6. However, Thomas teaches a touch fastener having

all the features mentioned above in paragraph 3 for the rejection of claims 1. Thomas illustrates that teaches that the overall height of the head and the ratio of crook with respect of the entrance provide the advantage of penetrating deeper into the loops and thereby allowing the heads to intercept or engage a greater number of strands or fibers (C. 9, L. 62-68 and C. 10, L. 1-2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the head has an overall height, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the head, that is greater than 55 percent of an overall height of the fastener element, measured perpendicular to the sheet-form base and that a ratio of an overall height of the crook, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the crook, to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip, is greater than 0.6 as taught by Thomas in the touch fastener disclosed by Gallant. Doing so, improves the engagement between the hook component and a loop component because it provides the advantage of penetrating deeper into the loops and thereby allowing the heads to intercept or engage a greater number of strands or fibers. Especially since Thomas disclose that the shape and size of the fastener elements can be changing the speed of the different component of the apparatus for making the fastener (Examples I-VI shown in C. 23-25 and Figs. 6a-9b).

Gallant also discloses that:

- Each fastener element has multiple heads extending in different directions and forming separate crooks (Figs. 11-12B).

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- Each fastener element has two heads (264) extending in essentially opposite directions (Figs. 11-12B).
 - Each fastener element defines an upper well between two oppositely-directed heads (Figs. 11-12B). The well extends down to a height measure perpendicular to the base, of at least 70 percent of the overall height of one of the two oppositely-directed heads (Figs. 11-12B).
 - Each fastener element has an overall length between opposite extents of the oppositely-directed heads, measured parallel to the base, of at least 1.8 times the overall height of the fastener element (Figs. 11-12B).
 - The modified overall head height in accordance with the teachings of Thomas can less than 60 percent of the overall height of the fastener element.
 - The tip extends toward the base (Figs. 11-12B).
 - The lower surface of the head is arched (Figs. 11-12B).
 - The head and stem form a unitary molded structure (Figs. 11-12B).
 - The head has a surface of resin cooled against a mold surface (Figs. 1 and 6a-7b).
 - The stem has opposing surfaces (Figs. 1 and 6a-7b).
 - The stem and head have side surfaces lying in parallel planes (Figs. 1 and 6a-7b).
 - The crook overhangs a surface of the stem (Figs. 1 and 6a-7b).
 - The overhung stem surface extends at an inclination angle of between about 20 and 30 degrees with respect to a normal to the base (Figs. 1 and 6a-7b).

Gallant fails to disclose that the touch fastener component further comprises a backing material laminated to a side of the base opposite the fastener elements. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the touch fastener component further comprises a backing material laminated to a side of the base opposite the fastener elements since the Examiner takes Official notice that having a fastener with two crook being provided with an upper well is well known in the touch fastener art.

Gallant fails to disclose that the fastener elements are arranged in a density of at least 350 fastener elements per square inch of the base. However, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have the fastener elements are arranged in a density of at least 350 fastener elements per square inch of the base since the Examiner takes Official notice that having a fastener with two crook being provided with an upper well is well known in the touch fastener art.

Gallant fails to disclose that the fastener elements together cover at least 20 percent of an overall surface area of the base from which the fastener elements extend. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the fastener elements together cover at least 20 percent of an overall surface area of the base from which the fastener elements extend since the Examiner takes Official notice that having a fastener with two crook being provided with an upper well is well known in the touch fastener art.

Regarding claim 24, a combination of claims 1 and 3 will yield the limitations recited in claim 24.

Both of the modified heads in accordance with the teaching of Thomas will have overall heights that are greater than half of the overall height of the fastener.

Regarding claim 35 having similar limitations to claim 1, Thomas and Gallant fail to disclose that the fastener element has a bulk aspect defined as a ratio of the product of an overall length of the fastener element, measured parallel to the sheet-form base in the engagement direction above an elevation of the tip, and fastener element thickness, measured parallel to the sheet-form base and the engagement direction at the elevation of the tip, to an overall height of the fastener element, measured perpendicular to the sheet-form base, of more than 0.020 inch (0.51 mm). However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have an a bulk aspect defined as a ratio of the product of an overall length of the fastener element, measured parallel to the sheet-form base in the engagement direction above an elevation of the tip, and fastener element thickness, measured parallel to the sheet-form base and the engagement direction at the elevation of the tip, to an overall height of the fastener element, measured perpendicular to the sheet-form base, of more than 0.020 inch (0.51 mm) since it has been held that the optimization of proportions in a prior art device is a design consideration within the skill of the art. In re Reese, 290 F.2d 839, 129 USPQ 402 (CCPA 1961). Especially since the prior art device has the structural limitations required with respect to the height of the crook with respect to the overall height of the fastener.

Regarding claim 46, the rejection of claim 1 meet the limitations of claim 46.

Response to Arguments

4. Applicant's arguments with respect to claims 1-5, 8-16, 21-27, 30, 31, 34, 46-50, 52, 56 and 57 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Billarant (US 3,417,440), Thomas (US 5,586,371), Miller et al. (US 6,054,091), Kennedy et al. (US 6,248,419 B1) and Chesley et al. (US 6,579,161) are cited to show state of the art with respect to touch fasteners having some of the features being claimed by the current application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth C. Rodriguez whose telephone number is (571) 272-7070. The examiner can normally be reached on M-F 07:15 - 15:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on (571) 272-7075.

Submissions of your responses by facsimile transmission are encouraged. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-6640.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ruth C. Rodriguez
Patent Examiner
Art Unit 3677

/James R. Brittain/
Primary Examiner
GAU 3677

rcr
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